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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,744	04/16/2004	Yoshio Nakamura	F-8222	8492

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JORDAN AND HAMBURG LLP
122 EAST 42ND STREET
SUITE 4000
NEW YORK, NY 10168

EXAMINER

CIRIC, LJILJANA V

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 03/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/825,744	Applicant(s) NAKAMURA ET AL.	
	Examiner Ljiljana (Lil) V. Ciric <i>AVC</i>	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2004.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☐ Claim(s) _____ is/are allowed.
 6) ☒ Claim(s) 1-13 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 16 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 10/007,820.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>03042005</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

The certified copy has been filed in parent Application No. 10/007,820, filed on December 5, 2001.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on March 4, 2005 was filed before the mailing date of the first Office action on the merits herewith. The submission is thus in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1 through 13 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. More particularly, base claim 1 recites both a process (i.e., a method of adjusting temperature) and a method of manufacture (i.e., constructing steps for making the heat exchanging tube). Claim 1 and claims 2 through 13 are thus not drawn to a single statutory class as required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1 through 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Art Unit: 3753

The preamble of base method claim 1 is drawn to a method or process of adjusting the temperature of a machining liquid, but the body of the claim includes steps drawn to both process steps for adjusting the temperature of the machining liquid and steps drawn to the manufacture of a heat exchanger tube, resulting in both a discrepancy between the scope suggested by the preamble of the claim and the (divergent) scopes suggested by the limitations in the body of the claim AND also resulting in limitations drawn to two distinct statutory classes of invention in a single base claim, thus rendering indefinite the metes and bounds of protection sought by claim 1 and all claims depending therefrom.

Examiner Comment Regarding 35 USC § 112, Sixth Paragraph

8. The examiner merely wishes to state for the record that the recitation of “the step *of* baking a tube” in line 12 of claim 1 does not automatically invoke 35 USC 112, sixth paragraph, because it does not use the required phrase “step *for*”.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 2, 4, 5, 7 through 10, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Aramaki et al. in view of Carbone of America Ind. Corp. (EP 0 744 587 A1, made of record via the IDS filed on March 4, 2005).

Aramaki et al. discloses a method of adjusting the temperature of a machining fluid essentially as claimed, including feeding a machining liquid and a temperature adjusting liquid to a heat exchanger 71 such that these flow in countercurrent to each other as shown in Figures 2 and 3.

While Aramaki et al. does not specify constructing the heat exchanger 71 to have a ceramic heat exchanging tube made by sintering (i.e., baking) with the tube including silicon carbide as recited in base

Art Unit: 3753

claim 1, it is known in the art of making and selecting heat exchangers for harsh environments such as industrial process applications and taught by Carbone of America Ind. Corp. to make heat exchangers having sintered or baked silicon carbide tubes in order to minimize the porosity and maximize the chemical inertness of the tubes in harsh environments [see column 8, lines 18-22 of EP 0 744 587 A1] while maintaining sufficient heat conductivity of the tube.

Thus it would have been obvious to one skilled in the art at the time of invention to modify the heat exchanging process of Aramaki et al. by specifically making heat exchanger 71 with baked or sintered silicon carbide tubes as taught by Carbone of America Ind. Corp. in order to minimize the porosity and maximize the chemical inertness of the heat exchanger tubes even in harsh process environments while maintaining or improving the heat conductivity of the tubes and of the heat exchanger.

Allowable Subject Matter

11. Claims 3, 6, 11, and 12 would be allowable if rewritten or amended without broadening to overcome the rejections under 35 U.S.C. 101 and 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner can normally be reached on Mondays through Fridays from 10:00 a.m. to 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene, can be reached at 571-272-4930.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Art Unit: 3753

Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ljiljana (Lil) V. Ciric
Primary Examiner
Art Unit 3753